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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/510,856	02/23/2000	Yoshinari Higuchi	SONYJP 3.0-103	3754

530 7590 04/19/2005

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EXAMINER	
YODER III, CHRISS S	
ART UNIT	**PAPER NUMBER**
2612	

DATE MAILED: 04/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/510,856	HIGUCHI ET AL.	
	Examiner	Art Unit	
	Chriss S. Yoder, III	2612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 September 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *6-8, 13-21 and 25-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *6-8,13-21 and 25-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *23 February 2000* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

Applicant's arguments with respect to claims 6-8, 13-21, and 25-28 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 6-7, 13, 16-20, 25, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawakami (US Patent # 4,598,243) in view of "Smart Battery Data Specification".

2. In regard to claim 6, note Kawakami discloses the use of a video camera that is powered by a battery pack (column 1, lines 27-30) comprising an obtaining means for obtaining a capacity value of a battery (column 2, lines 20-36; column7, lines 14-31; and column 8, lines 56-58; by identifying the battery, the device is obtaining the capacity of the battery using known information of applicable batteries), a setting means for setting a correction value based on the capacity value (column 2, lines 25-32; and figure 2: 100, 102, E1, and E2), the setting means sets the correction value to a first value when the capacity value exceeds a first predetermined value that is the capacity value of a battery having a first known number of battery cells and sets the correction value to a second value when the capacity value does not exceed the first predetermined value

(figure 2: it sets the values E1 and E2 dependent upon whether the capacity value exceeds Ea; if the capacity value exceeds Ea then the correction value is set to be E1, otherwise, the correction value is set to E2; the first known number of battery cells is known, as can be seen in figures 4A-4B: 10a has only one cell, and 10b has four cells), a correcting means for correcting a low power warning voltage value using the correction value (column 2, lines 25-35; and figure 2: E1, E2), and a generating means for generating a warning signal when a detected battery voltage is less than or equal to the corrected low power warning voltage value (column 2, lines 25-27).

Therefore, it can be seen that the Kawakami device fails to obtain the capacity value of the battery by communicating via a communications line with the battery pack and set the correction value to the second value when the capacity exceeds a second predetermined value and sets the correction value to zero when the capacity doesn't exceed the second predetermined value.

However, the Kawakami reference does disclose that instead of two batteries used in figure 2 (100 and 102) there can be a plurality of battery types used (column 20, lines 20-21). Because the graph only shows the use of two batteries, if three different batteries were used instead of two, it would be implied that there would be a second predetermined value in order to calculate the correction value in order to compensate for the difference in time until the low battery waning is generated. As for the correction value being set to zero, this is merely a reference point as to where there is no correction for the time difference (this would be implied to be any point where the device is set to be the primary warning time). For example, if E2 was established as the

reference point for zero, then E1 would be a normal correction value equivalent to the "first value" and "second value" as described by applicant. Kawakami teaches that the use of a plurality of types of batteries can be used in order to extend the life of the device and to adjust the price of the device dependent on the price of batteries. Therefore, it would have been implied and obvious to one of ordinary skill in the art to modify the Kawakami device to set the correction value to the second value when the capacity exceeds a second predetermined value and sets the correction value to zero when the capacity doesn't exceed the second predetermined value in order to include the use of a plurality of types of batteries.

The "Smart Battery Data Specification" discloses the use of a communication line to obtain the capacity value of the battery by communicating via the communications line with the battery pack (page 3: 4.1, "The Smart Batter communicates with other devices"; and page 26: 5.1.17). The "Smart Battery Data Specification" teaches that the use of a battery having a storage means that outputs the capacity value to the device is preferred in order to provide the user with the full capacity ("tank size") of the battery. Therefore, it would have been obvious to one of ordinary skill in the art to modify the Kawakami device to include a storage means in the battery for outputting the capacity value to the device is preferred in order to provide the user with the full size of the battery even if the battery is not full.

3. In regard to claim 7, note Kawakami discloses the use of a detecting means for detecting the battery voltage (column 2, lines 21-23).

4. In regard to claim 13, note the primary reference of Kawakami in view of "Smart Battery Data Specification" discloses the use of a video camera communicating with a battery as claimed in claim 6 above. Therefore, it can be seen that the Kawakami device fails to explicitly state that the correcting means subtracts the correction value from the low power warning voltage value. However, it would be implied that the correcting means subtracts the correction value from the low power warning voltage value (in figure 2: E1 and E2; E2 is considered to be the equivalent of the low power warning voltage value, and E1 is the correction value which is subtracted from the low power warning voltage). Therefore, it would have been obvious to one of ordinary skill in the art to modify the primary reference to include the subtraction of the correction value from the low power warning in order to compensate for differences in batteries.

5. In regard to claim 16, note Kawakami discloses that the generating means generates the warning signal when the detected battery voltage is greater than a minimum operating voltage (column 1, lines 40-42).

6. In regard to claim 17, note Kawakami discloses the use of a video camera (column 1, lines 29-30) and battery pack (figure 3: 210; a battery casing) comprising an obtaining means for obtaining a capacity value of a battery (column 2, lines 20-36; column7, lines 14-31; and column 8, lines 56-58; by identifying the battery the device is obtaining the capacity of the battery using known information of applicable batteries), a setting means for setting a correction value based on the capacity value (column 2, lines 25-32; and figure 2: 100, 102, E1, and E2), the setting means sets the correction value to a first value when the capacity value exceeds a first predetermined value that is

the capacity value of a battery having a first known number of battery cells and sets the correction value to a second value when the capacity value does not exceed the first predetermined value (figure 2: it sets the values E1 and E2 dependent upon whether the capacity value exceeds Ea; if the capacity value exceeds Ea then the correction value is set to be E1, otherwise, the correction value is set to E2; the first known number of battery cells is known, as can be seen in figures 4A-4B: 10a has only one cell, and 10b has four cells), a correcting means for correcting a low power warning voltage value using the correction value (column 2, lines 25-35; and figure 2: E1, E2), and a generating means for generating a warning signal when a detected battery voltage is less than or equal to the corrected low power warning voltage value (column 2, lines 25-27).

Therefore, it can be seen that the Kawakami device fails to obtain the capacity value of the battery by communicating via a communications line with the battery pack and set the correction value to the second value when the capacity exceeds a second predetermined value and sets the correction value to zero when the capacity doesn't exceed the second predetermined value.

However, the Kawakami reference does disclose that instead of two batteries used in figure 2 (100 and 102) there can be a plurality of battery types used (column 20, lines 20-21). Because the graph only shows the use of two batteries, if three different batteries were used instead of two, it would be implied that there would be a second predetermined value in order to calculate the correction value in order to compensate for the difference in time until the low battery waning is generated. As for the correction

value being set to zero, this is merely a reference point as to where there is no correction for the time difference (this would be implied to be any point where the device is set to be the primary warning time). For example if E2 was established as the reference point for zero, then E1 would be a normal correction value equivalent to the "first value" and "second value" as described by applicant. Kawakami teaches that the use of a plurality of types of batteries can be used in order to extend the life of the device and to adjust the price of the device dependent on the price of batteries. Therefore, it would have been implied and obvious to one of ordinary skill in the art to modify the Kawakami device to set the correction value to the second value when the capacity exceeds a second predetermined value and sets the correction value to zero when the capacity doesn't exceed the second predetermined value in order to include the use of a plurality of types of batteries.

The "Smart Battery Data Specification" discloses the use of a communication line to obtain the capacity value of the battery by communicating via the communications line with the battery pack (page 3: 4.1, "The Smart Batter communicates with other devices"; and page 26: 5.1.17). The "Smart Battery Data Specification" teaches that the use of a battery having a storage means that outputs the capacity value to the device is preferred in order to provide the user with the full capacity ("tank size") of the battery. Therefore, it would have been obvious to one of ordinary skill in the art to modify the Kawakami device to include a storage means in the battery for outputting the capacity value to the device is preferred in order to provide the user with the full size of the battery even if the battery is not full.

7. In regard to claim 18, note the "Smart Battery Data Specification" discloses the use of a battery having a storage means that outputs the capacity value the device (chapter 5; and page 26: 5.1.17).

8. In regard to claim 19, note the "Smart Battery Data Specification" discloses the use of a battery having a detecting means in the battery pack that detects the battery voltage (chapter 5; and page 24: 5.1.10).

9. In regard to claims 20, 25, and 28, these are method claims, corresponding to the apparatus of claims 6, 13, and 16, respectively. Therefore, claims 20, 25, and 28 have been analyzed and rejected as previously discussed with respect claims 6, 13, and 16.

10. Claims 8, 14-15, 21, and 26-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawakami (US Patent # 4,598,243) in view of "Smart Battery Data Specification" and in further view of Lee (US Patent # 6,157,169).

11. In regard to claim 8, note the primary reference of Kawakami in view of "Smart Battery Data Specification" discloses the use of a video camera communicating with a battery as claimed in claim 6 above. Therefore, it can be seen that the primary reference fails to disclose the use of a storage device for storing the capacity value, and the obtaining means gets the capacity value from the storage means. Lee disclose the use of capacity values to obtain the residual value of the battery pack in order to notify the user of the remaining life of the device which would inherently have a storage means for storing the capacity value in order to compare with the current voltage in order to output the remaining capacity. Lee teaches that the use of a storage device to

store capacity values is necessary in order to output the residual capacity. Therefore, it would have been obvious to one of ordinary skill in the art to modify the primary device to include the use of a storage device to store capacity values in order to output the residual capacity information.

12. In regard to claim 14, note the primary reference of Kawakami in view of "Smart Battery Data Specification" discloses the use of a video camera communicating with a battery as claimed in claim 6 above. Therefore, it can be seen that the primary device fails to determine the residual power of the battery based on capacity value. Lee discloses the determination of residual power of the battery based on capacity values (column 7, lines 45-65). Lee teaches that the determination of residual power of the battery based on capacity values is preferred in order to detect how much longer the device can be used before a power failure. Therefore, it would have been obvious to one of ordinary skill in the art to modify the primary device to determine the residual power of the batter in order to detect how much longer the device can be used before a power failure and to notify the user how much time is left.

13. In regard to claim 15, note Lee discloses the display of the residual power when the voltage is greater than the warning voltage (figure 11).

14. In regard to claims 21, 26, and 27, these are method claims, corresponding to the apparatus of claims 8, 14, and 15, respectively. Therefore, claims 21, 26 and 27 have been analyzed and rejected as previously discussed with respect claims 8, 14, and 15.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chriss S. Yoder, III whose telephone number is (703) 305-0344. The examiner can normally be reached on M-F: 8 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy Garber can be reached on (703) 305-4929. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CSY
March 24, 2005

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